

Appl. No. 10/809,965
Amdt. Dated : November 9, 2009
Reply to Office Action of May 8, 2009

Attorney Docket No. 89212.0016
Customer No.: 26021

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A method of detecting DNA markers in a sample, comprising:

Providing a cell-free bone marrow sample from a subject; and detecting one or more DNA markers in the sample, wherein the DNA markers are indicative of LOH or DNA hypermethylation, or the DNA markers are indicative of DNA mutation in KRAS or BRAF gene.

2. (Original) The method of claim 1, wherein the DNA markers are in the 1p, 3p, 6p, 6q, 8p, 10q, 11q, 14q, 16q, or 17p region.

3. (Canceled)

4. (Original) The method of claim 1, wherein the DNA markers include D1S228, D8S321, D4S175, D4S1586, D5S299, D8S133, D8S261, D8S262, D8S264, D9S171, D10S197, D10S591, D10S532, D14S51, D14S62, D15S127, D16S421, D16S422, D17S796, D17S849, D17S855, D18S58, D18S61, or D18S70.

5. (Original) The method of claim 1, wherein the DNA markers are indicative of hypermethylation in RASSF1A, MGMT, GSTP1, RAR- β , TWIST, APC, DAPK, P16, or Cyclin D2 promoter.

6. (Canceled)

7. (Previously presented) A method of detecting cancer, comprising providing a cell-free bone marrow sample from a subject; and detecting one or more DNA markers in the sample, wherein LOH or hypermethylation of the markers is indicative of cancer in the subject, or wherein the markers include KRAS or BRAF, and mutation of the markers is indicative of cancer in the subject.

8. (Original) The method of claim 7, wherein the cancer is melanoma, neuroblastoma, colorectal, breast, or prostate cancer.

9. (Previously presented) A method of staging cancer, comprising providing a cell-free bone marrow sample from a subject suffering from cancer; and detecting one or more DNA markers in the sample, wherein LOH, hypermethylation, or mutation of the markers is indicative of an advanced stage of the cancer in the subject.

10. (Original) The method of claim 9, wherein the cancer is melanoma, neuroblastoma, colorectal, breast, or prostate cancer.

11. (Previously presented) A method of prognosing cancer, comprising providing a cell-free bone marrow sample from a subject suffering from cancer; and detecting one or more DNA markers in the sample, wherein LOH, hypermethylation, or mutation of the markers is indicative of a poor prognosis of the cancer in the subject.

12. (Original) The method of claim 11, wherein the cancer is melanoma, neuroblastoma, colorectal, breast, or prostate cancer.

13. (Previously presented) A method of detecting LOH and DNA hypermethylation, comprising
providing a cell-free marrow sample from a subject; and
detecting a combination of LOH and DNA hypermethylation in the sample.

14. (Canceled)

15. (Previously presented) A method of detecting LOH and DNA hypermethylation, comprising
providing a cell-free bone marrow sample from a subject; and
detecting a combination of LOH and DNA hypermethylation in the sample, wherein the LOH is indicated by one or more DNA markers that include D1S228, D8S321, D4S175, D4S1586, D5S299, D8S133, D8S261, D8S262, D8S264, D9S171, D10S591, D10S532, D14S51, D14S62, D15S127, D16S421, D16S422, D17S796, D17S849, D17S855, D18S58, D18S61, or D18S70.

16. (Previously presented) A method of detecting LOH and DNA hypermethylation, comprising
providing a cell-free bone marrow sample from a subject; and
detecting a combination of LOH and DNA hypermethylation in the sample, wherein the DNA hypermethylation is detected in RASSF1A, MGMT, GSTP1, RAR- β , TWIST, APC, DAPK, or Cyclin D2 promoter.

17. (Previously presented) A method of detecting cancer, comprising providing a cell-free bone marrow sample from a subject; and detecting one or more DNA markers in the sample, wherein a combination of LOH and hypermethylation of the markers is indicative of cancer in the subject.

18. (Previously presented) A method of detecting cancer, comprising providing a cell-free bone marrow sample from a subject; and detecting one or more DNA markers in the sample, wherein a combination of LOH and hypermethylation of the markers is indicative of melanoma, neuroblastoma, colorectal, or prostate cancer in the subject.

19. (Canceled)

20. (Previously presented) A method of staging cancer, comprising providing a cell-free bone marrow sample from a subject suffering from cancer; and detecting one or more DNA markers in the sample, wherein a combination of LOH and hypermethylation of the markers is indicative of an advanced stage of the cancer in the subject.

21. (Original) The method of claim 20, wherein the cancer is melanoma, neuroblastoma, colorectal, breast, or prostate cancer.

22. (Canceled)

23. (Previously presented) A method of prognosing cancer, comprising

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providing a cell-free bone marrow sample from a subject suffering from cancer; and

detecting one or more DNA markers in the sample, wherein a combination of LOH and hypermethylation of the markers is indicative of a poor prognosis of the cancer in the subject.

24. (Original) The method of claim 23, wherein the cancer is melanoma, neuroblastoma, colorectal, breast, or prostate cancer.

25-31. (Canceled)